General Notes for Industry
The government intends to procure approximately 220 VHF-FM DSC equipped marine band transceivers. The government considers these items to be commercial as defined by part 2 of the Federal Acquisition Regulations. Contract award is projected for November 1996.

It is contemplated that one unit (if ordered) would be delivered to the CG Yard, Baltimore, MD, within 30 days of contract award. The government would then conduct acceptance testing on this equipment for 30 days. Within 120 days of acceptance of this first unit, the contractor would deliver 220 units to USCG Engineering Logistics Center, Columbia, MD.

We are soliciting comments on any aspect of this draft specification.

Any information provided that you consider proprietary should be clearly marked as such (in the margin and by encircling in the body of your response). Each page containing such information which is marked "proprietary" will be handled in accordance with government guidelines for protection of proprietary information.
We request your input by 19 July 1996 to the following address: Commandant (G-ACS-1A/GAA), 2100 2nd Street SW, Washington, D.C. 20593-001. Please respond as completely as possible. You may respond to any part of the specification. To assist our review, please key your response to the paragraph number of the specification. The specification is also available on the world wide web at the following address: http://www.navcen.uscg.mil/dgps/dgeninfo/DSC.SOW.TXT. We appreciate your participation.

If you have any further questions, you may contact the Contract Specialist, LCDR George Asseng at (202) 267-6206 or the Contracting Officer's Technical Representative, Mr. Tom Garlington at (703) 313-5677.

SPECIFICATION FOR SHIPBOARD
VHF-FM DIGITAL SELECTIVE CALLING (DSC)
RADIO EQUIPMENT
1.0 SCOPE.
1.1 General. This specification is for shipboard radio equipment to meet the Very High Frequency (VHF) Digital Selective Calling (DSC) component requirements of the Global Maritime Distress and Safety System (GMDSS).

1.1.1 Classification.

(a) VHF FM DSC marine radiotelephone
1.2 Background. The International Maritime Organization (IMO) has included DSC requirements in amendments to the Safety of Life at Sea (SOLAS) Convention. The GMDSS came into force on 1 February 1992. The Coast Guard plans to add very high frequency (VHF) DSC radio equipment to many of its cutters by mid-1999. The equipment will be used operationally to assist in prosecuting search and rescue missions and to enhance safety at sea for cutters.
1.3 Major Hardware Deliverables. All equipment identified to meet the requirements of this specification shall be commercial off-the-shelf (COTS) items. Equipment contractors shall provide DSC equipment that is fully compliant with the ITU Radio Regulation, CCIR Recommendations 493 (DSC), and this specification.
1.4 Major Documentation Deliverables. The contractor shall provide operation and maintenance manual(s) that cover all parts of the equipment.
1.5 Government Furnished Equipment. No government-furnished equipment (GFE) is required in this specification.
1.6 Precedence. Any ambiguity or conflict between this specification and applicable documents shall be resolved as follows: (1) this specification, (2) ITU Radio Regulations (3) CCIR Recommendation 493 (DSC), (4) referenced military and non-government standards and documents.

2.0 APPLICABLE DOCUMENTS.
2.1 Applicability. The following documents form a part of this specification and are applicable to the extent specified herein.

CCIR Recommendation 493. DSC System for use in the Maritime Mobile Service.
International Telecommunications Union (ITU)
Radio Regulations.

3.0 REQUIREMENTS.
3.1 GENERAL REQUIREMENTS.
3.1.1 Power Supply. Equipment shall be powered from the ship's main source of electrical energy (110-120VAC/60 Hz).
3.1.2 Physical Dimensions. The equipment shall not exceed the following; size - width 12", depth 8", height 5"; weight 5 lbs.
3.2 VHF DSC PERFORMANCE STANDARDS.
3.2.1 General.
3.2.1.1 The VHF DSC equipment, which may consist of more than one piece of equipment, shall be capable of operating on single-frequency (simplex) channels and on two-frequency (duplex) channels.
3.2.1.2 The equipment shall provide for the following categories of calling using both voice and digital selective calling (DSC):
a. distress, urgency and safety;
b. ship operational requirements; and
c. public correspondence.
3.2.1.3 The equipment shall provide for the following categories of communications using voice:
a. distress, urgency and safety;
b. ship operational requirements; and
c. public correspondence.
3.2.1.4 The equipment shall provide a means for the operator to disable any feature/features that automatically transmits a signal in response to a poll or call from other DSC equipment.
3.2.1.5 The equipment shall be comprised of at least:
a. a transmitter/receiver, including antenna
(see para 3.6);
b. an integral control unit with the capability for at least three separate remote control units;
c. a microphone with a push-to-talk switch, which may be combined with a telephone in a handset;
d. internal and capability for external loudspeaker;
e. an integral or separate digital selective calling facility;

f. a dedicated DSC watchkeeping facility to maintain a continuous guard on channel 70; and
g. a dedicated Channel 16 guard receiver
3.3 Class of Emission, Frequency Bands and Channels.
3.3.1 The equipment shall operate in accordance with Appendix 18 of the ITU Radio Regulations.
3.3.2 The radiotelephone shall operate as follows:
a. in the band 156.3 MHz to 156.875 MHz on single-frequency channels as specified in Appendix 18 to the Radio Regulations; and
b. in the band 156.025 MHz to 157.425 MHz for transmitting and the band 160.625 MHz to 162.025 MHz for receiving on two-frequency channels as specified in Appendix 18 to the Radio Regulations.
3.3.3 The digital selective calling facility shall operate on channel 70.
3.3.4 Class of emission shall comply with Appendix 19 of the ITU Radio Regulations.
3.4 Controls and Indicators. Control of the equipment shall be possible at the position from which the ship is normally navigated. Control from that position shall have priority if additional (remote) control units are provided. When there is more than one control unit, indication shall be given to the other units that the equipment is in operation.
3.5 Transmitter Output Power.
3.5.1 The transmitter output power shall be between 20 and 25 W.

3.5.2 Provision shall be made to allow the operator to reduce the transmitter output power to a value of between 0.1 and 1W.
3.6 Antenna System. A marine fiberglass whip antenna shall be provided with the VHF FM radiotelephone.
3.7 Digital Selective Calling Facility.
3.7.1 The facility shall conform to the provisions of CCIR Recommendation 493 pertaining to a Class A DSC system.
3.7.2 The DSC facility shall provide:
a. means to decode and encode DSC messages;
b. means necessary for composing the DSC message;
c. means to verify the prepared message before it is transmitted;

d. means to display the information contained in a received call in plain language;
e. means for the manual entry of the position information; additionally, automatic entry shall be provided; and
f. means for the manual entry of the time at which the position was determined; additionally, automatic entry shall be provided.
3.7.3 Distress Message Storage.
a. If the received messages are not printed immediately, sufficient capacity shall be provided to enable at least 20 received distress messages to be stored in the DSC facility.
b. These messages shall be stored until readout.
3.7.4 Means shall be provided to enable routine testing of the DSC facilities without radiation of signals.
3.7.5 Initiation of DSC distress calls shall supersede any other operation of the facility.
3.7.6 Self-identification data shall be stored in the DSC unit. It shall not be possible for the operator to change this data.
3.7.7 Provisions shall be made for a specific aural alarm and visual indication to indicate receipt of a distress or urgency call or a call having distress category. It shall not be possible to disable this alarm and indication. Provision shall be made to ensure that they can be reset only manually.
4.0 SHIPPING. Exterior shipping containers shall be marked with caution markings and the following shipping address:

Commanding Officer
USCG SUPPLY CENTER
Warehouse Annex
6751 Alexander Bell Drive
Columbia, MD 21046-2102
M/F Project Code 75A